

REMARKS

For the reasons presented below, reconsideration and withdrawal of the rejections presented in the May 11, 2009 Office Action are respectfully requested.

On pages 2-5 of the Office Action, claims 1-3 were rejected under 35 U.S.C. § 103(a) “as being anticipated” by Sirven (U.S. 4,749,068) in view of Chan (U.S. 2002/0171223) and Wyman (U.S. 3,062,331). This rejection is respectfully traversed, and it is respectfully requested that the rejection be withdrawn for the following reasons.

Initially, it is noted for the record that the legal statement in the statement of the rejection that claims 1-3 are rejected under 35 U.S.C. § 103(a) as being “anticipated” by Sirven, Chan and Wyman, as well as the statement at lines 2-5 of the body of the rejection that “the reference anticipates the current application...” are legally incorrect. Specifically, in order for a reference to anticipate a claimed invention the reference must include each and every element contained in the claim. Clearly, and as explicitly stated by the Examiner in the body of the rejection, the Sirven patent does not include every limitation of any of claims 1-3.

Therefore, for the purpose of responding to the Office Action, the statement of the rejection will be understood as stating that claims 1-3 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Sirven in view of Chan and Wyman.

With exemplary reference to the present drawing figures, claim 1 specifies, among other requirements, that a seal member 13 is mounted to the cylinder 11 at the open top end, and also specifies that the plunger 24 defines “a reservoir chamber [26] and a pressure chamber [25] in said cylinder [11] over and under said plunger [24], respectively.” Thus, according to claim 1 the reservoir chamber 26 must be “over” (i.e. above) the plunger 24, and the pressure chamber must be “under” (i.e. below) the plunger 24.

In contrast, the Examiner has defined in the rejection that the elements 5, 5a of Sirven correspond to the claimed “seal member”. However, the elements 5, 5a are mounted to the bottom end of the cylinder 8, not to the top end as required by claim 1. In this regard, the Examiner’s attention is directed to the reference numeral 17 in Fig. 1 of Sirven which shows the level of the hydraulic liquid (see column 4, lines 65-67). Obviously, for 17 to constitute the level of the

hydraulic liquid, the Sirven shock absorber must be oriented in the direction shown in Fig. 1 with the “seal member” 5, 5a at the bottom end of the cylinder 8. If it was attempted to utilize the shock absorber of Sirven with the “seal member” 5, 5a at the top end, the gas 16 would replace the hydraulic liquid 17, and operation of the shock absorber would cause the gas 16 (rather than the hydraulic liquid) to disadvantageously and problematically be sucked into the shock absorber.

That is, if the gas (shown in Fig. 1 at 16) was in contact with the valve body 18, the gas (rather than hydraulic liquid) would disadvantageously be sucked through the passages 20 instead of the hydraulic liquid being sucked through the passages 20 upon retraction of the rod 3 in the downward direction in Fig. 1 (see column 5, lines 3-14). Therefore, clearly the orientation of the shock absorber shown in Fig. 1 of Sirven is the correct orientation, and the shock absorber cannot be properly used in the opposite orientation. Therefore, the “seal member” 5, 5a of Sirven is not mounted to the top end of the cylinder 8, in contrast to the requirement of claim 1. Similarly, because of the required orientation of the Sirven shock absorber, with the reservoir 11 at the top and the seal member 5, 5a at the bottom as shown in Fig. 1 of Sirven, the alleged “reservoir chamber” 2b is not defined “over” the plunger 1 as required by claim 1, and likewise, the alleged “pressure chamber” 2a is not defined “under” the plunger 1 as required by claim 1. To further explain the operation of Sirven, and thus explain why extension of the rod 3 in a downward direction in Fig. 1 would cause suction of gas into the shock absorber if turned upside down, the Examiner’s attention is directed to column 7, lines 3-19 of Sirven, wherein it is explained that movement of the rod 3 in the upward direction in Fig. 1, which causes an additional volume of the rod 3 to be extended into the chambers 2a, 2b, so that this additional volume of the rod 3 causes displacement of the hydraulic liquid in the chambers 2a, 2b upwardly through the valve hole 51 and eventually out through the passages 23 of the valve body 18. Conversely, extension of the rod 3 will reduce the volume of the rod 3 that is present in the chambers 2a, 2b, thereby causing suction of hydraulic liquid into the chambers 2a, 2b through the valve hole 51 and thus also suction of hydraulic liquid contained in reservoir 11 through the passages 20 of the valve body 18. If the shock absorber of Sirven was turned upside down from the orientation shown in Fig. 1 of Sirven, the gas contacting against the valve body 18 would be sucked into the chambers 2a, 2b via the passages 20 of the valve body 18

and the valve hole 51.

Therefore, it is clear that, in the Sirven arrangement, the “seal member” 5, 5a shown in Fig. 1 is located at the bottom of the cylinder 8, contrary to the requirement of claim 1.

Also, in the rejection, the Examiner indicated that the element 27 of Sirven corresponds to the claimed check valve (shown at 28 in the present application). As such, the passages 26 in the plunger 1 of Sirven correspond to the passage 27 of the claimed plunger 24. Therefore, the passages 28 through the plunger 1 of Sirven correspond to the claimed “minute oil leak gap” of claim 1 since oil in the pressure chamber 2a flows through the passage 28 when the pressure in the pressure chamber 2a increases and the alleged check valve 27 closes. However, the passage 28 of Sirven is not formed between sliding surfaces of the sleeve 2, 7 of Sirven and the plunger 1 of Sirven, as required by claim 1. Further, although the Examiner cited the Wyman patent for teaching a “minute oil leak gap” between the sliding surfaces of the plunger 14 and sleeve 12 thereof, a person of ordinary skill in the art would clearly not have found it obvious to provide the “minute oil leak gap” of Wyman in the shock absorber of Sirven, because the shock absorber of Sirven already has the passage 28 to perform the function of the minute oil leak gap. Further, a person skilled in the art would not have utilized the minute oil leak gap configuration of Wyman in place of the Sirven passages 28 because the operation of the Sirven shock absorber further relies upon the use of the non-return valve 29 of Sirven in combination with the passages 28 of Sirven (see, for example, column 5, lines 22-30 of Sirven).

The Examiner cited the Chan reference for teaching a spring (40) around a shock absorber. However, this teaching of Chan clearly provides no teaching or suggestion that would have obviated the above-discussed shortcomings of the Sirven and Wyman references.

Thus, for the reasons presented above, it is believed apparent that the combination of Sirven, Wyman and Chan does not include all of the features required by claim 1. Furthermore, it is apparent that a person with ordinary skill in the art would not have found it obvious to modify the Sirven reference or to make any combination of the reference of record in such a manner as to result in or otherwise render obvious the present invention of claim 1.

Next, on pages 6-8 of the Office Action, claims 1-3 were further rejected under 35 U.S.C. §

103(a) as being “anticipated by” Tanaka (U.S. 2004/0087398) in view of (JP 5-10849) and “Tanaka2” (JP 2000-266144). This rejection is also respectfully traversed and it is respectfully requested that this rejection be withdrawn, for the following reasons.

Again, initially for the record, it is noted that the Examiner’s statement that claims 1-3 are rejected under 35 U.S.C. § 103(a) “as being anticipated” is legally incorrect for the reasons discussed above in connection with the first prior art rejection.

Further, as discussed above, and with reference to the present drawing figures, claim 1 requires that a seal member 13 be mounted to the cylinder 11 at the open top end, and that the plunger 24 defines a reservoir chamber 26 and a pressure chamber 25 in the cylinder 11 “over and under said plunger, respectively.” As such, to meet the requirements of claim 1, an auto-tensioner must have a cylinder, a seal member mounted to the top end of the cylinder, and a plunger that defines a reservoir chamber over (i.e. above) the plunger and a pressure chamber “under” (i.e. below) the plunger.

In contrast to these requirements of claim 1, the Tanaka reference (U.S. 2004/0087398) is alleged by the Examiner to have a “cylinder” 20, a “seal member” 23, and a “plunger” 13 defining a “pressure chamber” 16 and a “reservoir chamber” 24. However, considering that the “seal member” 23 is mounted to the top end of the “cylinder” 20 in Fig. 1 of the Tanaka reference, the alleged “pressure chamber” 16 is not defined “under” (i.e. below) the plunger 13 as required by claim 1, and, likewise, the alleged “reservoir chamber” 24 of the Tanaka reference is not defined “over” (i.e. above) the plunger 13.

Therefore, contrary to the Examiner’s assertion, the Tanaka reference does not disclose these features of the present invention. The Examiner cited the JP 5-10849 reference and the Tanaka2 (JP 2000-266144) reference for teaching “a spring (12) around the shock absorber”, and a “minute oil gap (14)”, respectively. However, these teachings of the JP 5-10849 reference and the JP 2000-266144 reference clearly provide no teaching or suggestion that would have obviated the above-discussed shortcomings of the Tanaka reference.

As such, a combination of Tanaka, JP 5-10849 and Tanaka2 (JP 2000-266144) clearly does not meet the claimed invention of claim 1.

Furthermore, referring to paragraph [0046], lines 1-2, of the Tanaka reference, wherein it is stated that “since the damping force during compression can be generated by the orifice hole 42,” it is apparent that the orifice hole 42 of Tanaka serves as the claimed “minute oil leak gap”. However, this orifice hole 42 of Tanaka is not formed between the sliding surfaces of the plunger and the sleeve, as required by claim 1. Additionally, although the Examiner cited the Tanaka2 reference for showing a “minute oil leak gap”, a person of ordinary skill in the art would clearly not have found it obvious to modify the Tanaka arrangement to include the “minute oil leak gap” taught by Tanaka2, since the device of Tanaka already has the orifice hole 42 providing the desired function.

The alleged relief valve 44 of Tanaka is referred to in Tanaka as a “check valve 44”. According to Webster’s dictionary a “relief valve” is defined as a device that, when actuated by static pressure above a predetermined level, opens in proportion to the excess above this level and reduces the pressure to it, while a “check valve” is defined as a valve permitting liquids or gases to flow in one direction only. Therefore, a check valve is a valve that opens when the pressure is zero or only slightly higher than zero. In this regard, although the valve 44 of Tanaka is biased by the spring 35 against the seat 43, it is apparent that the force of the spring 35 is weak enough that the valve 44 opens at a pressure of zero or slightly higher than zero because, otherwise, it is meaningless to provide the orifice 42. That is, if the valve 44 of Tanaka does not open until the pressure increases to a “predetermined level”, oil in the pressure chamber will never flow through the orifice 42 regardless of the size of the orifice 42, since the orifice 42 of Tanaka is provided in series with the valve.

In contrast, the claimed “minute oil leak gap”, which corresponds to the orifice 42 of Tanaka, is provided parallel to the claimed relief valve. This is apparent from the fact that the claimed “minute oil leak gap” is formed between sliding surfaces of the plunger and the sleeve, while the claimed “relief valve” is provided at the valve hole formed in the bottom of the sleeve.

Thus, for the reasons presented above, it is believed apparent that a person of ordinary skill in the art would not have found it obvious to modify the Tanaka reference (U.S. 2004/0087398) in view of the JP 5-10849 and Tanaka2 (JP 2000-266144) references, in such a manner as to result in or otherwise render obvious the present invention of claim 1. Therefore, it is respectfully submitted that claim 1, as well as claims 2 and 3 which depend there from, are clearly allowable over the prior

art of record.

In view of the foregoing remarks, it is respectfully submitted that the present application is clearly in condition for allowance. An early notice thereof is earnestly solicited.

If, after reviewing this Amendment, the Examiner feels there are any issues remaining which must be resolved before the application can be passed to issue, it is respectfully requested that the Examiner contact the undersigned by telephone in order to resolve such issues.

Respectfully submitted,

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